

the 'Vega' expedition, I venture to propose the name *in-signis* for this grand species. I believe it is larger than any other known *Pleurotoma*, recent or fossil. It is about three inches long and an inch broad. Colour creamy under the coating of a Hydrozoon which infests all the specimens. Whorls 7-8, convex; apex turreted. Sculpture consisting of numerous spiral striæ or slight ridges, besides a rather sharp and prominent keel in the middle of each whorl. Suture distinct. Fissure or slit broad but not very deep, placed about halfway between the suture and the median keel. The infrasutural or fissural space is marked (as in other species of *Pleurotoma*) with flexuous lines of growth. Mouth irregularly oblong. Many of the specimens have a short sinus in the outer lip at the commencement of the canal, which latter is of moderate length and nearly equally wide throughout. Inner lip smooth, and polished by the continual attrition of the foot. Operculum none. There were ten living specimens in this collection. CEPHALOPODA: *Heteroteuthis tenera*, Verrill, 15 fathoms.

After all has been said we cannot be much surprised to find that this Exhibition is not a museum of natural history. The masses are as yet far from being educated in such matters, and they would simply regard a properly arranged collection of specimens which are not useful to man in the most cursory and incurious manner and without the slightest scientific interest. Perhaps it may be different in the next century.

XVII.—*On two Freshwater Sponges* (*Spongilla nitens*, Carter, and *S. Böhmii*, sp. n.) collected by Dr. R. Böhm in the River Ugalla near Lake Tanganyika. By M. HILGENDORF*.

THE fifteen dry specimens, of bright greyish-brown colour, from 5 to 15 centim. [2 to 6 inches] in diameter, and of broadly conical, hemispherical, or horizontally expanded form, closely resemble one another. Their surface is covered with short slender prominences, each separated from the neighbouring ones by interspaces larger than its own diameter and continued radially through the interior substance of the sponge. In the principal portion a framework goes from one radial cord to another; and in the meshes thus formed numerous

* Translated from a separate impression from the 'Sitzungsbericht der Gesellschaft naturforschender Freunde,' May 22, 1883, communicated by H. J. Carter, F.R.S. &c.

gemmulae [statoblasts] are imbedded, but without penetrating the peripheral part. The trabeculae of the framework lie loose in the centre.

The *skeleton-spicules* have rounded ends and are moderately curved; very few of them (perhaps one among 200 ordinary spicules) are seen with pointed ends, but always with cylindrical middle part: these are of equal length with, but in diameter only half as large as the former. From 4 to 6 spicules combine to form the thickness of a trabecula. The diameter of the meshes may be twice that of a gemmula.

The one-pored gemmulae possess a considerably thickened crust, which (enumerating from the centre outwards) consists of a layer of chitine, a stratum of tangential spicules, a mass of parenchyma, and a second (outer) stratum of spicules. These spicules are half as long as those of the skeleton; and each forms a slender double cone armed with scattered, short, pointed spines, and is mostly pointed at its ends. They are present only in small number, about 30 to each hemisphere of a layer, making a total of 120 in a gemmula. The parenchyma consists of delicate-walled vesicles, polyhedric by compression, arranged in radiating series of about ten each. In the radial direction they are flattened, so that their height may amount to half their breadth.

Measurements.—

	millim.
Diameter of the largest specimen	130
Height " "	50
Length of the outgrowths upon the surface	6
Thickness " "	1
	micromillim.
Length of the skeleton-spicules	336
Thickness " "	28
Diameter of the gemmulæ	308
Thickness of the entire crust	56
Tangential diameter of the parenchyma cells	14
Radial diameter " "	5.6
Length of the gemmula-spicules	154
Thickness " "	8.4

These data accord, so far as a comparison from the description is possible, with the *Spongilla nitens* of Carter (Ann. & Mag. Nat. Hist. 1881, vii. p. 89); only I do not find there any statement about the flattening of the polyhedric cells, upon which, however, much weight can hardly be laid. Unfortunately the locality of that species is not known; but from their unmistakable similarity to the present form, Carter's specimens may likewise have come from Africa, and not from South America as he supposes.

Until now, the occurrence of a freshwater sponge from Africa had never been proved, while recently North and South America and Asia (Borneo, India, Lake Baikal, Japan) had furnished numerous species; so that Dr. Böhm's find appears zoogeographically not unimportant. (Zool. Mus. Protozoa 810.)

On looking more closely, however, my attention having been arrested by the appearance of a strange spicule in a prepared specimen, I found a new and hitherto quite unknown species of *Spongilla* on almost every individual of *S. nitens*. It coats the underside of the much more massive *S. nitens* as an inconspicuous crust of only 1 millim. thickness, consisting of a very fine-meshed delicate framework. The magnificent gemmulæ are grouped in a single layer of from 8 to 12 within the skeleton, but at the same time much projecting from it; in several examples they are entirely wanting; and where they are present there are always very few of them.

A delicate homogeneous lamella sharply divides the two species.

The *skeleton-spicules* are of the same form as in *S. nitens*, but, instead of being smooth, are studded with roundish flattened tubercles which at the ends approach considerably closer together; they are scarcely half as long as in that species. They are often accompanied by a four-times smaller amphidiscoid form. The shaft of these siliceous bodies is gently curved, and bears at some distance from the centre a small spherical elevation; from a similar one at each end of the shaft proceed five short, pointed, recurved prongs, exactly as in a whorl. These double whorls lie close to the large spicules, and form with them the network, the threads of which consist mostly of only one spicule in thickness. The width of the meshes may amount to 200 millimetres.

The *gemmulæ* have not the layer of parenchyma; the spicules lie tangentially and in only a single layer; but they are densely crowded and at the same time minute; so that their number is very considerable and far exceeds a thousand in one gemmula. There is perhaps a larger portion of the surface covered by the spicules than left free from them, in which they moreover frequently cross one another. Each spicule is moderately curved, cylindrical, with only the last eighth or tenth part tapering to a point; the surface bears a moderate number of short acute spines, of which from 8 to 10 may occupy the length, and about 50 the entire spicule.

Measurements.—

Skeleton-spicules—	micromillim.
Length	140
Thickness	14
Diameter of tubercles	1·5
Double whorls, length	33·6
Length of the teeth (from the centre) ..	5·6
Thickness of the axis	2·3
Gemmula-spicules—	
Length	56
Thickness	5·6

As, from the absence of amphidisks or rudimentary amphidisks, the genera *Meyenia*, *Tubella*, and *Parmula* are excluded, and all the species of *Spongilla* in the restricted sense possess pointed skeleton-spicules, excepting only *S. nitens* (cf. Carter's synopsis, *l. c.*), our second form must without doubt be regarded as a new species, which, in honour of its discoverer, shall be named *Spongilla* (s. s.) *Böhmii* (Zool. Museum, Protozoa no. 811).

PROCEEDINGS OF LEARNED SOCIETIES.

DUBLIN MICROSCOPICAL CLUB.

May 18, 1882.

Nephrocytium Agardhianum, Näg., and *Zoospores*.—Mr. Archer showed examples of the two minute Algæ, *Nephrocytium Agardhianum*, *majus* et *minus*, Nägeli, and remarked that he thought these two forms very distinct indeed, dwelling at the same time on their resemblances and distinctions as regards the genus *Oocystis*, Näg. But he was on the present occasion more particularly anxious to draw attention to examples of the former, which he would be disposed to designate only *Nephrocytium Agardhianum* (and the smaller *Nephrocytium minus*), inasmuch as it (*N. Agardhianum* proper) showed a zoospore condition. An example was now under the microscope, in which the four elliptic, necessarily comparatively large, biciliated zoospores were still contained in the parent cyst, within which they performed a lazy side-to-side movement. On their escape, however, into the surrounding water their movements become greatly accelerated, and they dash about with great force and, as it were, recklessness, hither and thither. Considerable differences of size were apparent, some being nearly twice as large as others. Mr. Archer would suggest that this might be due to whether an average example became divided into four or eight subdivisions ;